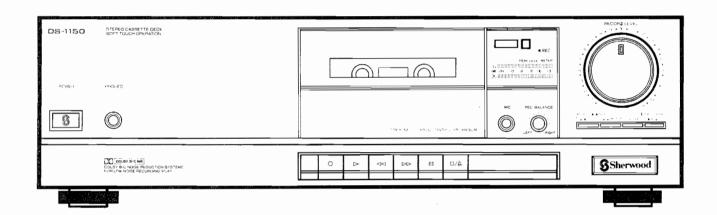
# SERVICE MANUAL

# **DS-1150**

STEREO CASSETTE DECK



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### Safety Precaution

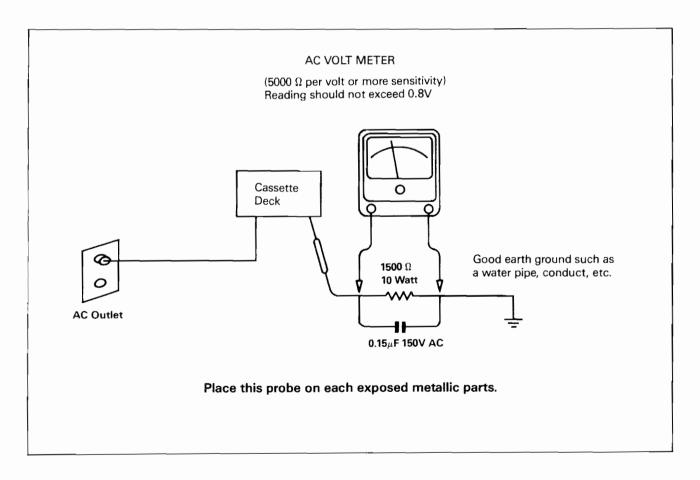
#### WARNING

Service should not be attempted by anyone unfamiliar with the necessary precautions on this player. The following precautions are necessary during servicing.

- 1. Many electrical and mechanical parts in this player have special characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristic are identified in this manual and its supplements: electrical components having such features are identified by a A in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.
- Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as

terminals, screwheads, metal overlays, etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet. (Do not use a line isolation transformer during this check.) Use an AC voltmeter having 5000  $\Omega$  per volt or more sensitivity in the following manner:

Connect a 1500  $\Omega$  10 watt resistor paralleled by a 0.15 $\mu$ F, 150V AC capacitor, between a known good earth ground (water pipe, conduct, etc) and the exposed metallic parts, one at a time. Measure The AC voltage across the combination of 1500  $\Omega$  resistor and 0.15 $\mu$ F capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3volts RMS. This corresponds to 0.2mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



### **Specifications**

Type;

Track system Recording system Erasing system

Tape speed

Heads;

Motor

Fast winding Time Frequency Response; at -20dB Rec/PB Dolyby NR off 0 dB Rec/PB Signal to noise

ratio at Rec/PB

Soft touch front loading stereo cassette deck with Dolby B/C NR system

4 track, 2 channel stereo recording/playback AC bias system(Bias frequency: 85kHz)

AC system

1-7/8 ips (4.76cm/s)

Hard permalloy Hyperbolic recording/playback head×1

Double gap erasing head×1

Electronic governor controlled DC motor Approx. 120 seconds with C-60 cassette tape

 Normal: 35-14,500Hz at ±3dB : 35-15,000Hz at ±3dB CrO<sub>2</sub> Metal : 35-16,000Hz at ±3dB Metal tape 40-12,000Hz at  $\pm$  3dB • Dolby NR off 53dB at Normal tape (Weighted)

55dB at CrO2 tape 55dB at Metal tape

 Dolby B NR 62dB at Normal tape (weighted) 64dB at CrO<sub>2</sub> tape 64dB at dB Metal tape

72dB at Normal tape Dolby C NR (weighted) 74dB at CrO<sub>2</sub> tape 74dB at Metal tape

Third harmonic distortion Input sensitivity/impedance Output level/impedance;

Less than 1.0% at 1kHz 0dB Rec/PB

Line 70mV/47k $\Omega$ Line 500mV/1.5k $\Omega$ 

Headphone 450mV at load  $600\Omega$ 

Built in features;

Dolby B/C NR system

LED peak level display: 5 LEDs×2

2-push in type tape selector: Norm, CrO<sub>2</sub>, Metal

Power consumption

Power requirements;

12 watts (A): 120V 50Hz for USA/Canadian version (B): 120/220V 60/50Hz for multi-voltage version

(C): 220V 50Hz for general Europian version

(D): 220V 50Hz for west Germanian & Italian version (E): 240V 50Hz for Britigh & Australian version (F): 220V 50Hz for Swiss & Scandinabian version

Dimensions:  $440(W) \times 118(H) \times 225(D) \text{ mm}$ 17.3(W) × 4.6(H) × 8.9(D) inches

Weight (Net)

3.3kg (7.3 lbs)

NOTE: \*Dolby noise reduction manufactured under license from Dolby Licensing Corporation. Specifications and design subject to change without notice for improvements.

### Electrical Adjustment & Procedures

#### 1. Before Measurements and Adjustment

The following general conditions apply to the electrical measurements and adjustments unless especilly stated otherwise.

- Dolby NR push switch off.
- Volume control: Recording level VR201L/R max.
- Valance volume VR601 center.
- Use 500mV (200nwb/m) for 0dB as the standard level of the unit.
- Test tape
  - TCC-153 \_\_\_\_\_ Azimuth(10kHz, -20dB)
  - TCC-112 \_\_\_\_\_ Tape speed(3.15kHz, -10dB)
  - TCC-130 \_\_\_\_\_ Playback level (Dolby ref. tape 400Hz, 0dB)
  - TCC-184 \_\_\_\_\_ Playback freq. response
- Reference Tape
  - Normal \_\_\_\_\_ TDK AD-60
  - CrO<sub>2</sub> \_\_\_\_\_ TDK SA-60
  - Metal \_\_\_\_\_ TDK MAX-60

#### Playback Section

Adjustments	Test tape	Mode	Apply Signal to	Measure on	Read on	Adjust with	Adjust to
Head Azimuth	TCC-153 10 kHz (A.BEX)	Play		Line output	ACmV-meter Oscilloscope	Head adjusting screw (left side)	Max. *a • Lissajous' figure become a straight line with an angle 45 degrees
Tape Speed	TCC-112 3.15kHz -10dB(A.BEX)	Play		Line output	Wow and Flutter Meter & Frequency Counter	The inner VR Motor	*b Approx. center position 3.15kHz ± 15Hz
Playback Level	TCC-130 400Hz 0dB (A.BEX)	Play		Line output	ACmV-meter Oscilloscope	VR101L/R	500mV
Playback frequency responce	TCC-184 (A.BEX)	Play		Line output	ACmV-meter Oscilloscope		See graph Fig.2 freq. response

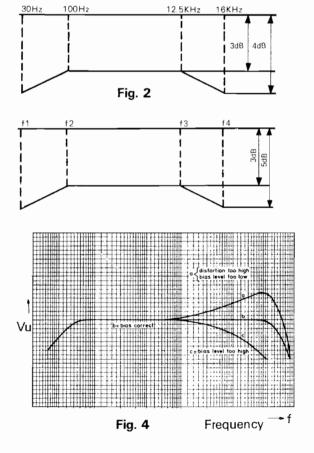
#### **Recording section**

Adjustments	Test tape	Mode	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Bias OSC Frequency	MAX-60 (TDK)	Rec/Pause		White color lead wire of CNT501	Frequency Counter	osc	85kHz, red colour
85kHz trap suppression	MAX-60 (TDK)	Rec/Pause		TP3L/R	ACmV-meter Oscilloscope	L501L/R	Minimize the reading on ACVM
Target value Bias	Metal MAX-60	Rec/Pause		TP1L/R	ACmV-meter Oscilloscope	∨R503	7.0mV
	CrO <sub>2</sub> SA-60					VR502	5.5mV
	Normal AD-60					VR501L/R	3.3mV

Adjustments	Test tape	Mode	Apply Signal to	Measure on	Read on	Adjust with	Adjust to	_
Recording Level	AD-60 (TDK)	Source	400Hz to Line	Line output	ACmV-meter Oscilloscope	LF generator	500mV	*c
		Tape Rec/Pause				VR201L/R		
Bias		Tape Rec/Pause	400Hz to Line	, , ,		See target value bias	if it necessary	*d
			10kHz-12k	4kHz-6.3kHz Record/Playback a number of 10kHz-12kHz frequency with the same input voltage. repeat bias adjust.				
Level meter	Arbitary tape	Source	400Hz to Line in	■ 0 Level Point	AcmV-meter Oscilloscope	VR201L/R	<b>I</b> 0 mark	
19 kHz Supression	Arbitary tape	Rec/Pause	400Hz to Line in	Line output	LF generator 500		500mV	
			19kHz to Line in			LPF251L/R	Minimize the reading on ACVM	

#### Note

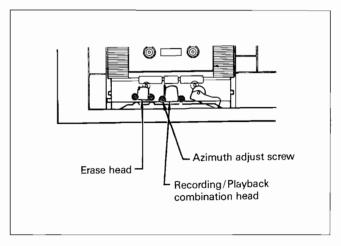
- \*a. Prior to any measurement or adjustment with the tape running heads and tape guides should be degaussed and cleaned. Confer see Figure Electrical Adjustment Point
- \*b. The max permissible speed variation  $\pm$  1dB. Moreover the wow and flutter can be read. This value should not exceed 0.1%.
- \*c. The voltage on line out should read 500mV  $\pm$  20mV. If this is not the case reduce the LF signal(bias disabled by as many dB's as the reading was too low or too high means of VR101L/R.
- \*d. When the channel is adjusted this may slightly affect the adjustment of the other channel. If the adjustment is correct the frequency response curve will be similar in Fig. 4 distortion ≤3%



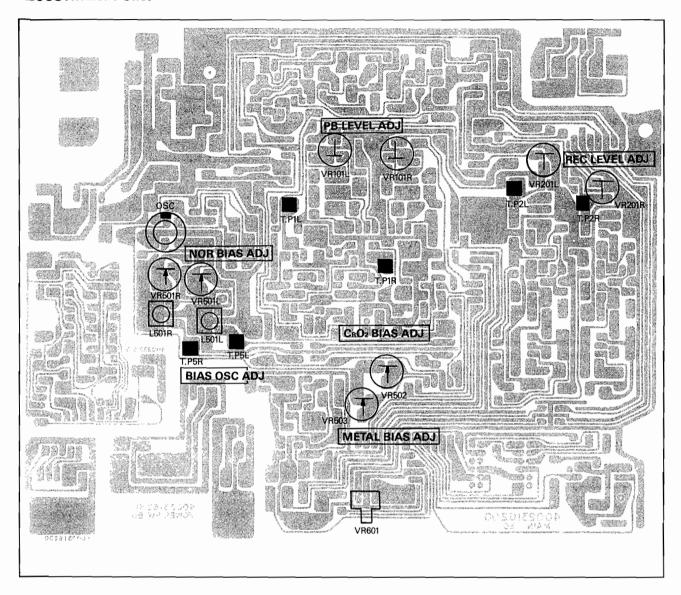
	f1	f2	f3	f4
Metal	30Hz	100Hz	12.5kHz	15.5kHz
CrO <sub>2</sub>	30Hz	100Hz	12.5kHz	15.0kHz
Normal	30Hz	100Hz	12.5kHz	14.5kHz

Fig. 3

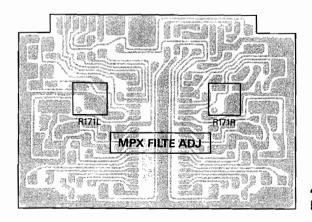
#### **Azimuth Adjustment Point**



#### ADJUSTMENT POINT



#### MAIN BOARD 4002316200



4002316300 DOLBY BOARD

### Electrical Parts List

PRODUCT SAFETY NOTICE: Products marked with  $\triangle$  have special characteristics important to safety. If yoy replace any of these components, carefully read the product safety notice of this manual. Don't degraded the safety of the product through improper servicing.

Resistors & Capacitors tolerance, D:  $\pm 5\%$ , K:  $\pm 10\%$ , M:  $\pm 20\%$ , Z: +80% -20%.

Ref. No	Part No.	D	escription			Position	Remark
Main	Board 4	400231	6200			,	
• Capac	itors				_		
C101L/R C102L/R C103L/R C104L/R C105L/R C106L/R	3679183120 3679103120 3579221130 3479210971 3579471130 3479247971	Mylar Mylar Ceramic Electric SA Ceramic Electric SA	470pF 4.7μF	100V 100V 50V 50V 50V 50V	J J M J	A1/B1 A1/B1 A1/B1 A1/B1 A1/B1 B1	
C107L/R C108	3479247031 3479247031	Electric SA Electric SA	47μF 47μF	16V 16V	M	B1 B1	
C201L/R C202L/R C203L/R C204L/R C205L/R C205L/R C207L/R C209L/R C210L/R C211L/R C212 C213/C214	3679683120 3479210971 3479210971 3479210971 3679183120 3679223120 3479210061 347923031 3679333120 3679563120 3679203120 3479210131 3509104530 3479210131	Mylar Electric SA Electric SA Mylar Mylar Electric SA Mylar Mylar Electric SA Mylar Mylar Mylar Mylar Electric SA Ceramic Electric SA	1μF 0.018μF 0.022μF 10μF 33μF 0.033μF 0.056μF 0.02μF	100V 50V 50V 100V 100V 100V 16V 100V 16V 50V 16V	J M M M J J M M J J J Z M	B1 B1 B1 B1 B2 B1 B2 B2 B2 B2 B2 B2 B1 B1	
C301L/R C302L/R	3479210061 3479222031	Electric SA Electric SA	10μF 22μF	35V 16V	M M	A1/B1 B1	
C401 C402 C403 C404-C406	3479233041 3409247139 3409247169 3509104530	Electric SA Electric SA Electric SA Ceramic	470μF	25V 16V 35V 50V	M M M Z	A1 A1 A1 A1	
C501L/R C502 C503/C504 C505 C506 C507 C508-C510 C511	3509471130 3609332130 3679562120 3679223120 3679103120 3479210061 3509104530	Ceramic Mylar Mylar Mylar Mylar Electric SA Not used ! Ceramic	470pF 0.0033μF 0.0056μF 0.022μF 0.01μF 10μF	50V 160V 100V 100V 100V 35V	J J J J M Z	A1 A1 A1 A1 A1 A1	
C601 C602/C603 C604 C605 C701 C702/C703	3479222041 3479210971 3479233031 3579331130 3479247031 3479210061	Electric SA Electric SA Electric SA Ceramic Electric SA Electric SA	1/F 33μF 330pF 47μF 10μF	25V 50V 16V 50V 16V 35V	M J M	A2 A2 A2 A2 B2 B1/B2	
C801L/R	3479222971	Electric SA	2.2μF	50V	M	A2	

Ref. No	Part No.	Description	า	Position	Remari
C802L/R C803	3479210061 3579104534	Electric SA $10\mu$ F Ceramic $0.1\mu$ F		A2/A1 A1	
• Coils					
L201L/R L202L/R L501L/R OSC	2648601310 2648601700 2658501100 2638601140	Inductor 4.5mH Inductor 5.5mH REC Trap, 85kHz Bias OSC, 85kHz		B2 B2 A2 A1	
• Diodes				I	1
D101/D102 D103	2058306101 2058599109	1N4148 Zener, UZ 15BH		B1 B1	
D401-D404 D701 D702/D703	2258106100 2058599100 2058306101	1N4002, Rectafier Zener, UZ 3.3B 1N4148		A1 A2 B2	
D801 D802L/R D803L/R D804L/R D805L/R D806L/R D807L/R	2308220109 2308220127 2308221105 2308221105 2308221105 2308220127 2308220127	LED, SLR 54URC LED, SLR 34URC3 LED, SLR 34DC3 LED, SLR 34DC3 LED, SLR 34DC3 LED, SLR 34URC3 LED, SLR 34URC3		A2 A1 A1 A2 A2 A2 A2	
• ICs					<u> </u>
IC101L/R IC401L/R IC801L/R	2168006104 2168601106 2168022114	KIA8125S GD7818 BA6124		B1 A1 A2	
• Resisto	rs	1			
VR101L/R VR201L/R VR501L/R VR502 VR503	3248322320 3248310320 3248310420 3248333320 3248310220	Semi $22k\Omega(B)$ Semi $10k\Omega(B)$ Semi $10k\Omega(B)$ Semi $33k\Omega(B)$ Semi $1k\Omega(B)$		A1/B1 B1 A1 B2 B2	
R110 R111L/R R112L/R R113L/R R114L/R R115L/R R116L/R R117L/R R118L/R R119L/R	3069681970 3069472970 3069334970 3069101970 3069104970 3069332970 3069221970 3069104970 3069102970 3069153970	$\begin{array}{lll} \text{Carbon Film} & 680\Omega \\ \text{Carbon Film} & 4.7k\Omega \\ \text{Carbon Film} & 330k\Omega \\ \text{Carbon Film} & 100\Omega \\ \text{Carbon Film} & 100k\Omega \\ \text{Carbon Film} & 3.3k\Omega \\ \text{Carbon Film} & 220\Omega \\ \text{Carbon Film} & 100k\Omega \\ \text{Carbon Film} & 15k\Omega \\ \text{Carbon Film} & 15k\Omega \\ \end{array}$	1/5W J 1/5W J 1/5W J 1/5W J 1/5W J 1/5W J 1/5W J 1/5W J 1/5W J 1/5W J	B1 A1/B1 A1/B1 A1/B1 B1 B1 B1 A1/B1 B1 A1/B1	
R211L/R	3069152970	Carbon Film 1.5kΩ	1/5W J	B1	

Ref. No	Part No.	D	escription			Position	Remark
R212L/R	3069682970	Carbon Film	6.8kΩ	1/5W	J	B1	
R213L/R		Not used !					
R214L/R	3069102970 3069222970	Carbon Film	1kΩ	1/5W	J	B1	
R215L/R R216L/R	3069222970	Carbon Film Carbon Film		1/5W 1/5W	J	B1 B1	
R217L/R	3069393970	Carbon Film	39kΩ 220kΩ	1/5W	J	B1	
R218L/R	3069822970	Carbon Film	8.2kΩ	1/5W	J	B1	
R219L/R	3069151970	Carbon Film	150Ω	1/5W	J	B1	
R220L/R	3069392970	Carbon Film		1/5W	Ĵ	B2	
R221L/R	3069332970	Carbon Film	$3.3k\Omega$	1/5W	J	B2	
R222L/R	3069302970	Carbon Film	$3k\Omega$	1/5W	J	B2	
R223L/R	3069152970	Carbon Film	$1.5 \mathrm{k}\Omega$	1/5W	J	B2	
R224L/R	3069122970	Carbon Film	1.2kΩ	1/5W	J	B1	
R225L/R	3069132970	Carbon Film	1.3kΩ	1/5W	J	B1	
R226L/R R227L/R	3069101970 3069333970	Carbon Film Carbon Film	- 100Ω 33kΩ	1/5W	J	B1 B2	
R228L/R	3009333970	Carbon Film	100Ω	1/5W 1/5W	J J	B2 B2	
NZZOL/ II	3003101370	Carbon Fillin	1004	1/544	J	62	
R311L/R	3069104970	Carbon Film	100kΩ	1/5W	J	B1	
R312L/R	3069101970	Carbon Film	$100\Omega$	1/5W	J	B1	
R313L/R	3069681970	Carbon Film	680Ω	1/5W	J	A1/B1	
R314L/R	3069682970	Carbon Film	6.8kΩ	1/5W	J	B1	
R315L/R	3069473970	Carbon Film		1/5W	J	B1	
R316L/R R317	3069122970 3069152970	Carbon Film Carbon Film	1.2kΩ 1.5kΩ	1/5W 1/5W	J	B1 B1	
R318L/R	3069332970	Carbon Film	3.3kΩ	1/5W	J	B1	
I TO TO E, TT	0000002070	Carbon in	0.0141	1/011	Ü	-	
R401	3069684970	Carbon Film	$680 \mathrm{k}\Omega$	1/5W	J	A1	
R402	3069273970	Carbon Film	27kΩ	1/5W	J	A1	
R403/R404	3069473970	Carbon Film	47kΩ	1/5W	J	A1	
R405	3069223970	Carbon Film	22kΩ	1/5W	J	A1	
R406 R407	3069103970 3069123970	Carbon Film Carbon Film	10kΩ <b>12</b> kΩ	1/5W 1/5W	J	A1 A1	
11407	3003123370	Carbon Fillin	1484	1/344	J	^1	1
R511	3069100970	Carbon Film	$10\Omega$	1/5W	J	A1	
R512/R513	3069333970	Carbon Film	$33k\Omega$	1/5W	J	A1	
R514	3009621273	Carbon Film	620Ω	1/5W	J	B2	1
R515L/R	3069562970	Carbon Film	5. <b>6</b> kΩ	1/5W	J	A2	
R611	3069392970	Carbon Film	$3.9 \mathrm{k}\Omega$	1/5W	J	A2	
R612/R614	3069224970	Carbon Film	$220k\Omega$	1/5W	J	A2	
R613	3069562970	Carbon Film	$5.6$ k $\Omega$	1/5W	J	A2	
R615	3069471970	Carbon Film		1/5W		A2	
R616	3069123970	Carbon Film	12kΩ	1/5W	J	A2	
R617 R618	3069333970 3069102970	Carbon Film	33kΩ 1kΩ	1/5W 1/5W	J	A2   A2	
R619	3069221970	Carbon Film	220Ω	1/5W	J	A2 A2	
R620	3069123970	Carbon Film	12kΩ	1/5W	J	A2	
R621	3069122970	Carbon Film	1.2kΩ	1/5W	J	A2	
R711L/R	3069681970	Carbon Film	680Ω	1/5W	J	A1/B1	
R712L/R	3069122970	Carbon Film	$1.2 k\Omega$	1/5W	J	A1/B1	
R713	3069101970	Carbon Film	100Ω	1/5W	J	A2	
R714	3069223970	Carbon Film	22kΩ	1/5W	J	A2	
R715 R716	3069273970 3069103970	Carbon Film Carbon Film	27kΩ 10kΩ	1/5W 1/5W	J	A2 B2	
R717/R718	3069223970	Carbon Film	22kΩ	1/5W	J	B2 B2	
R719/R720	3069223970	Carbon Film	22kΩ	1/5W	J	B1	
R721	3069102970	Carbon Film	1kΩ	1/5W	J	B1	
R722	3069223970	Carbon Film	22kΩ	1/5W	J	B2	
R723	3069682970	Carbon Film	$6.8 k\Omega$	1/5W	J	.B2	
R724	3069103970	Carbon Film	10kΩ	1/5W	J	B2	
R725	3069122970	Carbon Film	1.2kΩ	1/5W	J	B2	
R811L/R	3069203970	Carbon Film	20kΩ	1/5W	J	A2	

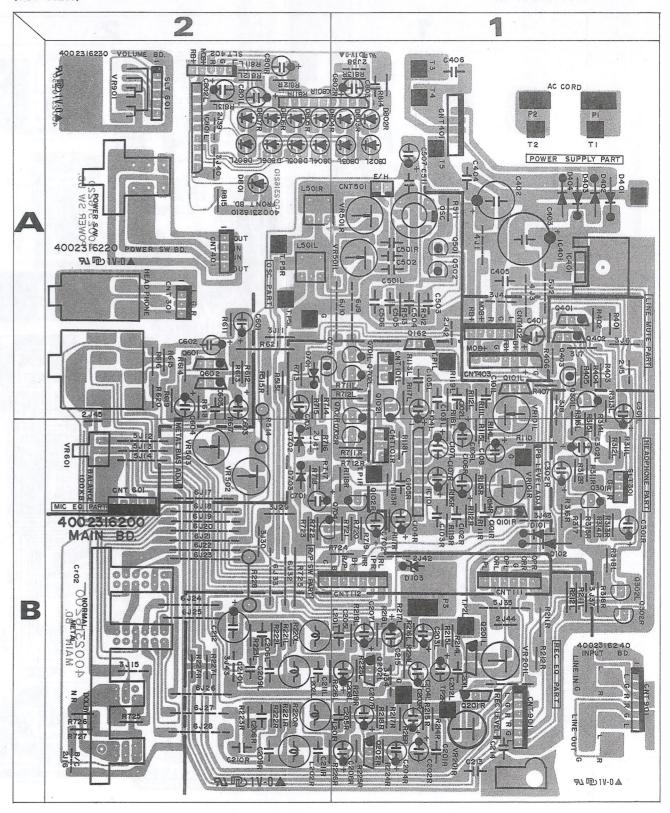
Ref. No	Part No.	Description	Position	Remark
R812L/R	3069563970	Carbon Film 56kΩ 1/5W J	A2	
R813L/R	3069103970	Carbon Film 10kΩ 1/5W J	A2/A1	
R814	3069561970	Carbon Film 560Ω 1/5W J	A1	l
R815	3069122970	Carbon Film 1.2kΩ 1/5W J	A2	
Transist	ors.			
Q101L/R	2208622106	NPN DTC114YS	A4 / D4	_
Q101L/R	2008610162	NPN 2SD1302S	A1/B1 A1/B1	
	2000010102	W W 25015025	AI/BI	
Q162	2208622106	NPN DTC114YS	A1	
Q201L/R	2208622106	NPN DTC114YS	B1	
Q202L/R	2208622106	NPN DTC114YS	B1	
Q301L/R	2208606104	NPN KTC1815Y	A1/B1	
0302L/R	2008610162	NPN 2SD1302S	B1	
Q401/Q402	2208622107 2008209101	NPN 2SC1740 NPN MPSA55	A1	
Q403	2008209101	NPN MPSA55	A1	
Q501/Q502	2008609101	PNP MPSA05	A1	
Q601/Q602	2208622107	NPN 2SC1740	A2	
Q701L/R	2208606104	NPN KTC1815Y	A1	
Q702L/R	2208606104	NPN KTC1815Y	A1/B1	1
Q703	2008209101	NPN MPSA55	A2	
0704	2208606104	NPN KTC1815Y	B2	
				L
		4002316300		
<ul> <li>Capacit</li> </ul>	ors			
C171L/R	3479222871	Electric SA 0.22μF 50V M	C1	
C172L/R	3679683120	Mylar 0.068μF 100V J	C1	
C173L/R	3679473120	Mylar 0:047μF 100V J	C1	
C174L/R	3679103120	Mylar 0.01μF 100V J	C1	
C175L/R	3679682120	Mylar 0.0068µF 100V J	C1	
C176L/R	3479210061	Electric SA 10 <sub>µ</sub> F 35V M	C1	J
C177L/R	3479210121	Electric SA 100µF 10V M	C1	
C178L/R	3679153120	Mylar 0.015μF 100V J	C1	
C179L/R	3479215871	Electric SA 0.15µF 50V M	C1	
C180L/R	3479247871	Electric SA 0.47 <sub>µ</sub> F 50V M	C1	
C181L/R	3679472120	Mylar 0.0047μF 100V J	C1	
C182L/R	3679332120	Mylar 0.0033μF 100V J	C1	
C183L/R	3579561130	Ceramic 560pF 50V J	C1	
C184L/R	3679472120	Mylar 0.0047ΩF 100V J	C1	
C185L/R	3479222971	Electric SA 2.2ΩF 50V M	C1	
C186L/R	3479247971	Electric SA 4.7ΩF 50V M	C1	
C187	3479210061	Electric SA 10ΩF 35V M	C1	
C188L/R	3479210061	Electric SA 10ΩF 35V M	C1	
C189L/R	3479247971	Electric SA 4.7ΩF 50V M	C1	
C190L/R	3479210061	Electric SA 10ΩF 35V M	C1	
C191L/R	3579102530	Ceramic 1000pF 50V J	C1	
• Coils				
L170L/R	2648601710	Inductor 21mH	C1	
L171L/R	2658301140	MPX Filter	C1	
		I .	1	i
• 10				
• IC	2168000108	Dolby IC CX20187	C1	l

Ref. No	Part No.	D	escriptio	n		Position	Remark
• Resisto	rs	i in	and a	-			
R171L/R R172L/R	3069681970 3069682970	Carbon Film Carbon Film	680Ω 6.8kΩ	1/5W 1/5W	J	C1 C1	
R173L/R R174L/R	3069471970	Carbon Film	470Ω	1/5W	J	C1	
R175L/R	3069562970 3069272970	Carbon Film Carbon Film		1/5W 1/5W	J	C1	
R176L/R R177L/R	3069752970 3069682970	Carbon Film	$7.5k\Omega$ $6.8k\Omega$	1/5W -1/5W	J	C1	
R178L/R R179	3069332970 3069104970	Carbon Film	3.3kΩ 100kΩ	1/5W 1/5W	J	C1	
R180L/R	3069101970	Carbon Film	100Ω	1/5W	J	CI	
Others	Connectors	5)					
CNT101 L/R CNT111 CNT112 CNT301 CNT401 CNT402	4428517610 4428524810 4428525180 4428522310 4428522410 4428522510	Plug 3p Plug 6p, Angl Plug 7p, Angl Wire trap 3p Wire trap 4p Wire trap 5P				A1 B1 B2 A2 A2 A1	
CNT403 CNT501 CNT601	4428502070 4428517510 4428522510	Plug 7p, from Mecha A1 Plug 2p, from Mecha A1 Wire trap, 5p B2					

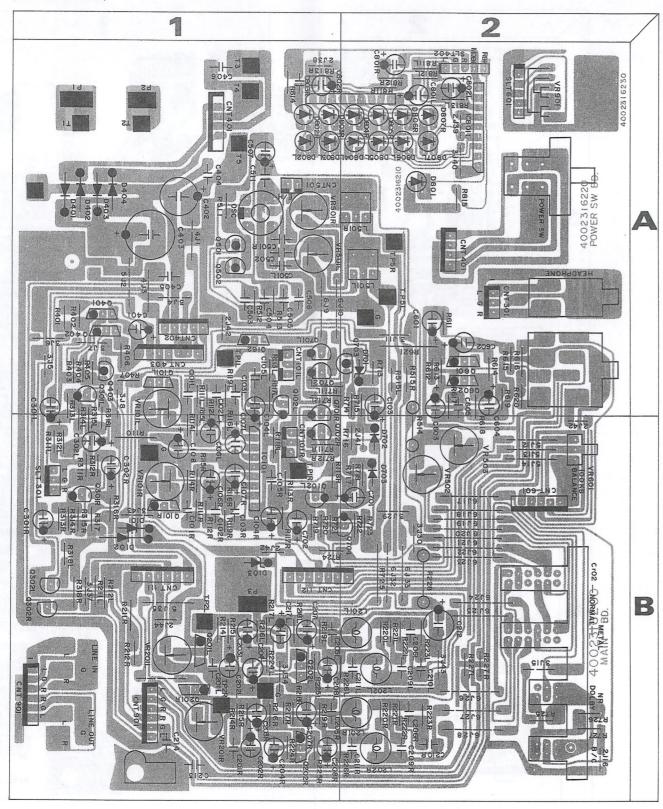
### Top & Bottom View of P.C Boards

MAIN P.C. BOARD 4002316200

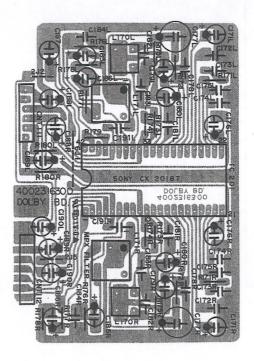
(TOP VIEW)



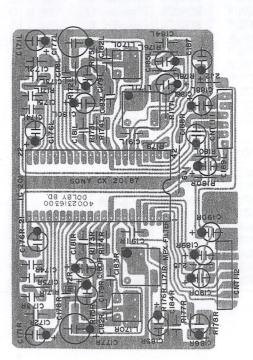
#### (BOTTOM VIEW)



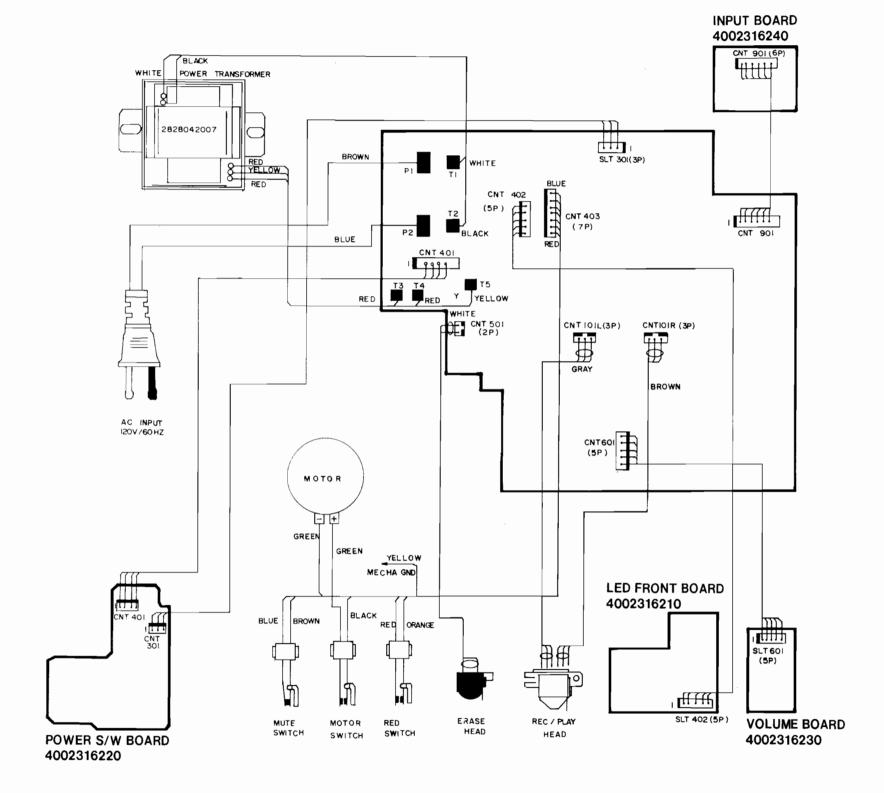
#### DOLBY BOARD 4002316300 (TOP VIEW)

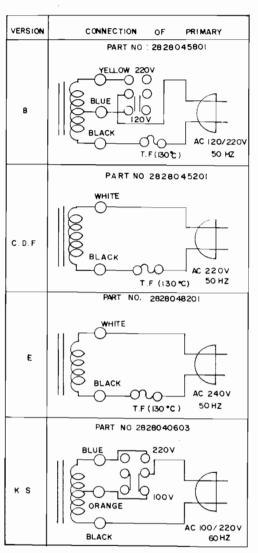


#### (BOTTOM VIEW)



### Wiring Diagram





	POWER	TRANSFORMER
VERSION	PART NO	REMARK
Α	2828042007	AC 120V 60 HZ
C.D.F	2828045201	ACI20V/220 V 50 HZ
E	28 280 48201	AC 240V 50HZ
K.S	2828040603	AC 100V/220V 60HZ

	FUSE PART	NO		
VERSION	0.5 A / 250 V	0.2A / 250V		
K. S	5508211630	5508211130		

### Mechanical Parts List (Deck Mechanism Ass'y)

No.	Part No.	Des	cription	04
NO.	Part No.	Parts Code Parts Name		Q'ty
1	5708901650	PBE 14715	Keep plate	2
2	5708901260	8901260 PBC 1146 C. Case		1
3			Not used !	
4	5708901420	PBE 15901	Button shaft	1
5	5708901430	PBE 2960	Button lever	6
6	5708901840	PBE 6354	Spring	1
7	5708901440	PBE 14927	Bush	7
8	5708901450	PBE 16459	Felt washer	1
9	5708902070	2453022	R/P head	1 i
10	5708902080	8860103	Erase head	li
11	5708902010	PBE 13666	C. spring	1
12	5708901270	PBC 1145	Head base	1
13	5708901910	PBE 6508	Spring	1
14	5708901460	PBE15920	F.R lever	Ιi
15	5708906960	PGNH22A20	Nut	;
16	5708901470		P. idler ass'y	1
		PBE03245		1
17	5708901850	PBE 6384	Spring	
18	5708901480	PBE 15577	Riser lever	1
19	5708906950	PGWM16X40020	Washer	2
20	5708901490	PBE 02161	T.reel ass'y	1
21	5708901280	PBD 1801	Inter rock plate	1
22	5708901290	PBD 10612	Reel cap	1
23	5708901300	PBD 15574	F.R unlock lever	1
24	5708901860	PBE 6557	Spring	1
25	5708901500	PBE 15576	P unlock lever	1
26	5708901510	PBE 1796	PL lock plate	1
27	5708901870	PBE 6349	Spring	1
28	5708901310	PBD 1797	F.R lock plate	1
29	5708900550	PBE 15524	Gear	1
30	5708901530	PBE 15578	REC cover plate	1
31	5708902000	PBE 6849	C. spring	1
32	5708901880	PBE 6350	Spring	1
33	5708901540	PBE 15585	Fidler gear	1
34	5708901550	PBE 15589	Senser cam	1 1
35	5708901560	PBE 15582	AS gear	1
36	5708901570	PBE 15945	Cassette holder	1
37	5708901580	PBE 15565	Eject cam	1
38	5708901320	PBD 1805	Latch lever	1
39	5708901590	PBE 02164	Pinch arm ass'y	1 1
40	5708901890	PBE 6394	Spring	li
41	5708901600	PBE 15570	Finition	1
42	5708901900	PBE 6518	Spring	
43	5708901610	PBE 17295	S reel gear	1
43 44	5708901030	PBD 0783	Chassis ass'y	1 1
45	5708901530	PBE 15557	SE lever	1
45 46			Pause lever	1
	5708901340	PBD 1793		1
47	5708901630	PBE 15923	FF lever	1
48	5708901640	PBE 15924	REW lever	
49	5708901650	PBE 15952	PL lever B	1
50	5708901350	PBD 1798	REC lever	1
51/53			Not used !	
52	5708901920	PBE 6552	Spring	1
53	5708902520	PBE 14710	Earth lug	1
54	5708902160	MSW 1598	Leaf switch	1
56/57			Not used !	
58	5708901670	PBE 15801	Lock pin	1
59/66			Not used!	
60	5708901680	PBE 15939	Capstan support	1
61	5708902030	HSN 135	Leaf switch	1
62	5708902130	PBE 5083	Belt	1
63	5708901700	PRE 03533	Fly wheel ass'y	1
64	5708901980	PGWP 21X040013	Washer	1

No.	Dové Alia	Description			
NO.	Part No.	Parts Code	Parts Name	Q'ty	
65	5708901710	PBE 15561	Gear holder	1	
67	5708902170	SHE 2L	Motor	1	
68	5708901720	PBE 15938	Motor plate	1	
69	5708902150	PBE 16602	Pully	1	
70	5708902140	PBE 5201	Belt	1	
71	5708901360	PBD 0818	F.R lidler arm ass'y	1	
72	5708901930	PBE 6620	Spring	1	
73	5708901370	PBD 1791	Assist gear A	1 1	
74	5708901750	PBE 15955	Assist gear B	1	
75	5708901940	RBE 6342	Spring	1	
76	5708901760	PBE 15566	P cam lever	1	
77/78			Not used!		
79	5708901380	PBD 1792	CR cam lever	1	
80	5708901950	PBF 6344	Spring	1 1	
81	5708901390	PBD 1833	FR. start lever	Ιi	
82	5708901400	PBD 1834	FRS lever	1	
83	5708901770	PBE 15588	Protect plate	1	
84	5708901960	PBE 6343	Spring	1	
85	5708901780	PBE 15569	REC joint plate	Ιi	
86	5708901970	PBE 6341	Spring	Ιi	
87	5708902050	H 580714	Leaf switch	Ιi	
88	5708901790	PBE 15579	MSW lever	1	
89	5708901990	PBE 6355	T.spring	;	
90	5708901800	PBE 15563	REC change plate	li	
91	5708901810	PBE 15562	PL start lever	1 1	
92	5708901820	PBE 15893	Support plate	Ιi	
93	5708901980	PBE 6348	Spring	3	
94/95	3700001000	,	Not used !		
96	5708901830	PBF 15571	RSW lever	1	
97			Not used !	'	
201	5708901640	PGST 20A2005	Tapping screw	5	
202			Not used !		
203	5708906970	PGST 20A2008	Tapping screw	2	
204	5708906980	PGSP 20A2010	Screw	1	
205			Not used !		
206	5708906990	PGSD 10A1706	D screw	1	
207			Not used !		
208	5708907000	PGST 15A2606	F tapping screw	3	
209	5708906830	PGSP 11A2604	Screw	2	
210	5708906900	PGSD 10A2604	D screw	1	

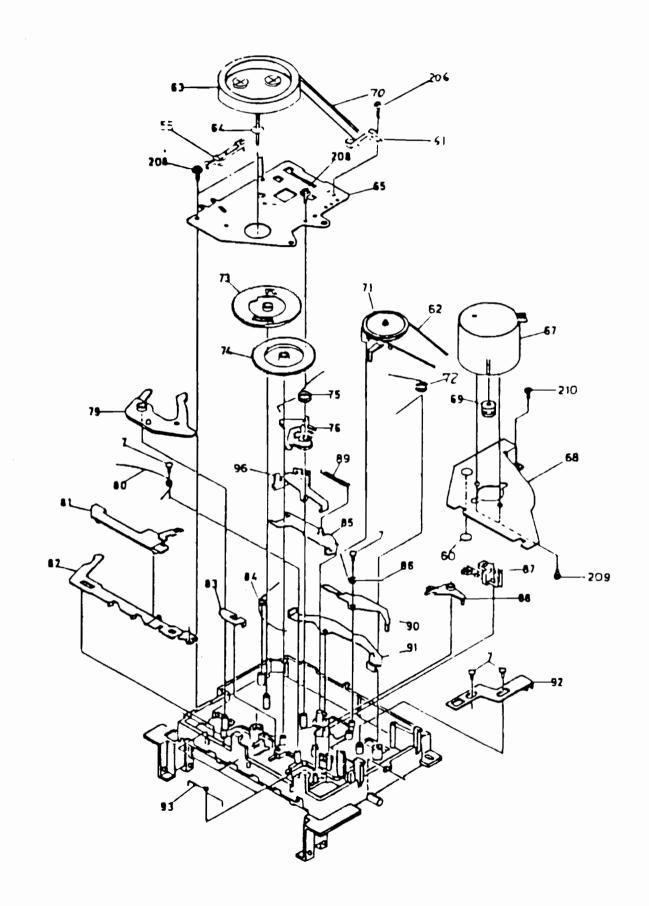
### Mechanical Parts List (Cabinet & Chassis)

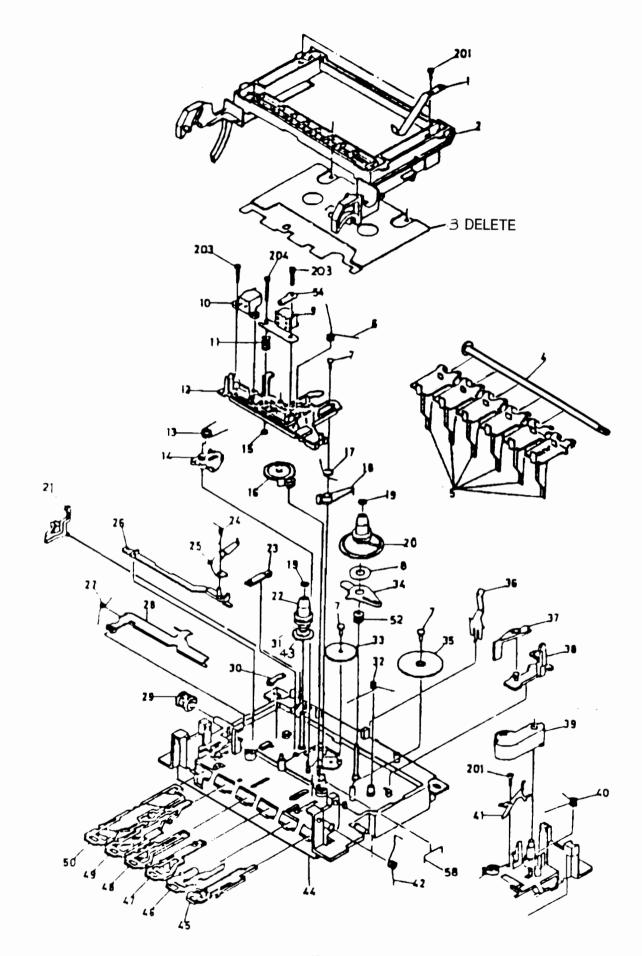
No.	Part No.	Description	Q'ty	Position	Remark
1	046122018411	Cover Top, Black	1	E2	
2	048501012711	Panel Front, Black	1	C2	
3	6121603920	Chassis Main	1	D5	
4	046102025012	Chassis Back, Black	1	E5	Domestic
	046102025022	Chassis Back, Black	1	E5	A
	046102025032	Chassis Back, Black	1	E5	В
	046102025042	Chassis Back, Black	l i	E5	c
	046102025052	Chassis Back, Black	1	E5	D
	046102025062	Chassis Back, Black	Ιi	E5	l E
	046102025072	Chassis Back, Black	1	E5	F
5	8545048210	Knob-Main Power, Black	l i	B1	Domestic
5				B1	
	048545048211	Knob-Main Power, Black		C1	Α
6	6555004380	Spring w/ Power Main	1 '		
7	4438004010	Phone Jack	1	D2	
8	4628034310	Switch Power, Main	1	D2	
9	048553007712	Door Window	1	B1	
10	048563003511	Door Deck	1	B2	
11	048585005411	Decoration Cover	1	A2	
12	048545049111	Knob Rotary(B), Balance	1	A2	
13	8523009220	Decoration Ring	1	A3	
14	048645009621	Knob Rotary, Record Volume	1	A2	
15	048535019021	Badge	1	A3	Cornestic
	048535019011	Badge, Sherwood	1	A3	
16	8543020310	Button Cap(A)	1	A3	
17	048555019312	LED Window	1	B2	
18	8545060710	Button Cap(B)	lί	B2 ·	
19	048683002411	Cover Mechanism	Ιi	C3	
20	048545059711	Button Deck, Record	Ιi	C3	1
21	048545059712	Button Deck, Play	l i	C3	
22	048545059713	Button Deck, Rewind	;	C3	
23	048545059714	Button Deck, Fast Forward	1	C3	
23 24	048545059715	1	1	B3	1
24 25	048545059716	Button Deck, Pause		B3	
26		Button Deck, Stop/Eject		C3	
	5708005610	Deck Mwcha, LF402CW-41	l i	B4	
27	8535023910	Diffuser	1 1	B4	
28	046042001711	LED Guide			
29	6042001810	LED Holder	1	B4	
30	4002316210	PCB Ass'y-Front	1	B4	
31	3208055210	VR Rotary, Record Volume	1	B4	ĺ
32	5318001710	Counter	1	C4	
33	6505080510	Bracket Counter	1	C4	
34	7165000610	Belt, Counter	1	C4	
35	7505201940	Heatsink, Regulator TR	1	B5	
36	4438002910	Mic Jack	1	B5	
37	3208050710	VR Rotary, Balance	1	B5	
38	8545061510	Button Push, Dolby NR B/C	4	A5	
39	4628053910	Switch Push, 4 Key	1	A5	1
40	6125401810	Bottom Cover	1	B6	
41	6528301010	Fastener	2	D5	
42	4438100410	Jack RCA, 4P	1	D6	
43	6518000111	Cord Stopper, Black	1	F5	
44	4308003910	Cord AC Power, Black	1	E6	
52	7115002010	Dial Roller	1	C4	
54	2828042007	Transformer Main	1	E3	
55	046035101421	Foot, Gold(Front)	2	C6	
56	6725002110	Cushion Foot, Black	4	C6	
57	6035101420	Foot, Black(Rear)	2	C6	
Screv	\ VS				
45	8159440083	WSAM 4×8ZNB	2		
46	8209540011	Nut Flange M4Y	2		
47	8109230083	#2BTC 3×8ZNB	4		

No.	Part No.	Description	Q'ty	Position	Remark
48	8109230081	#2BTC 3×8ZNY	13		
49	8159230081	#2WPTC 3×8ZNY	6		
50	8119120051	#1PTC 2×5ZNB	2		
51	8095001310	Flaxetion	1		
53	8119230063	#2PTC 3×6ZNB	2		

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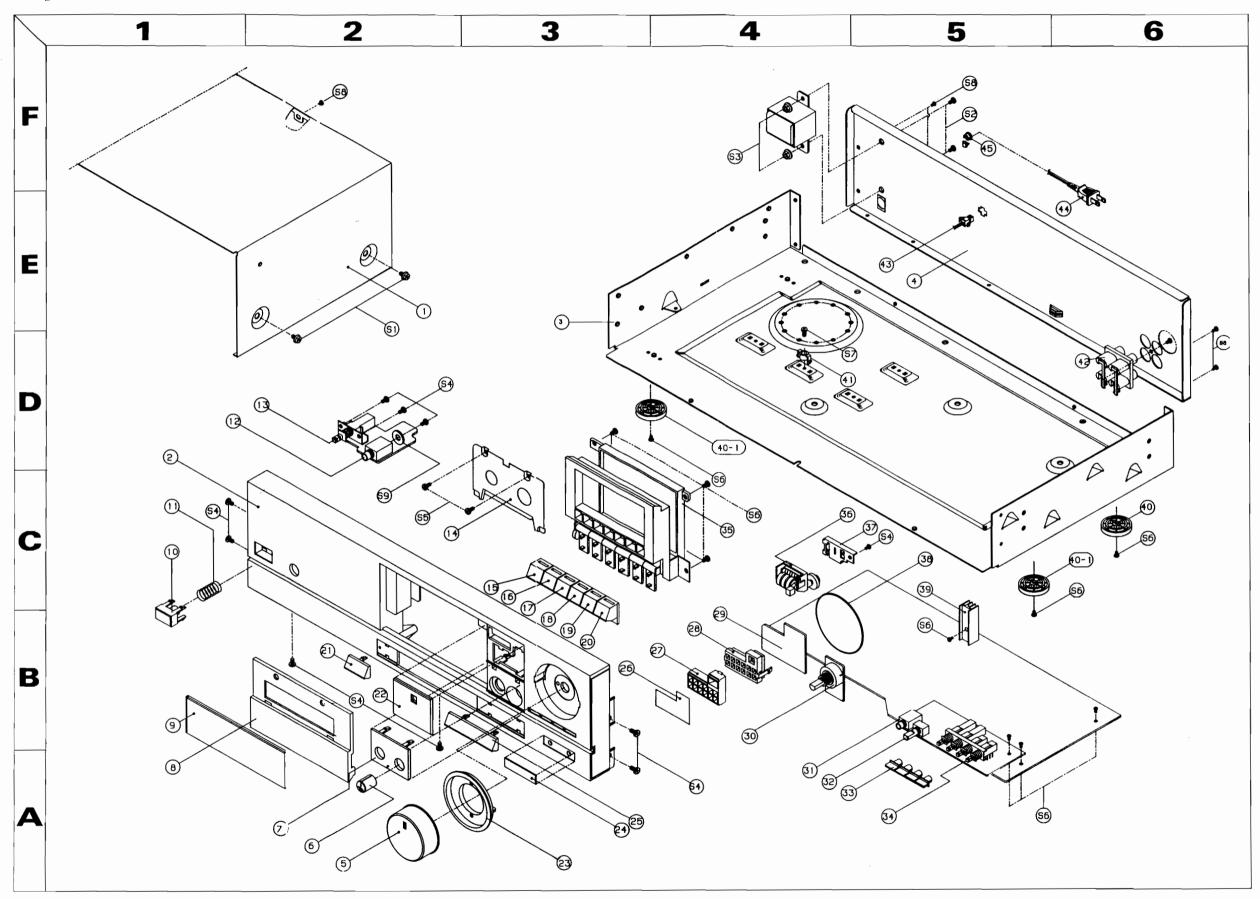
# Exploded View (Deck Mechanism Ass'y)

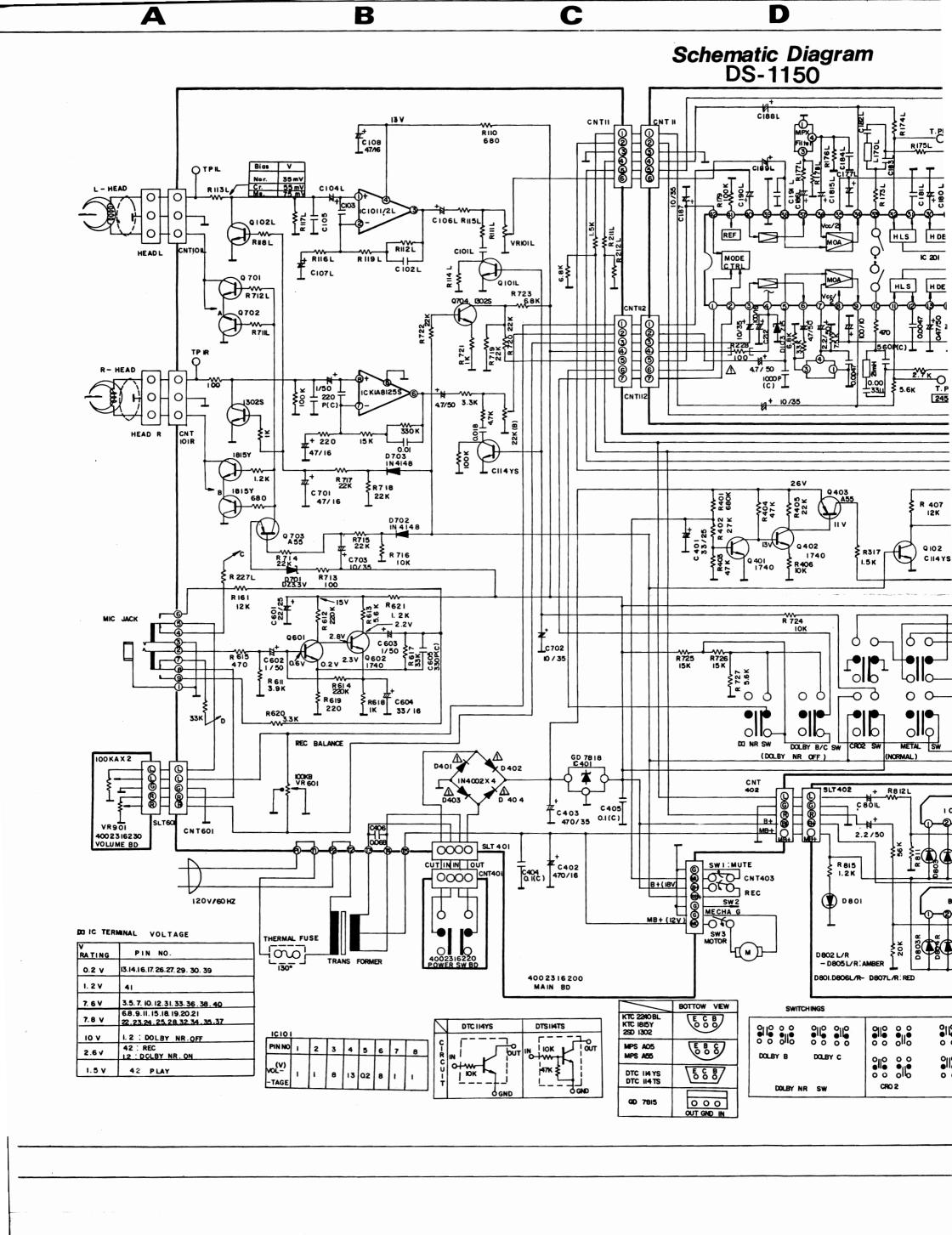


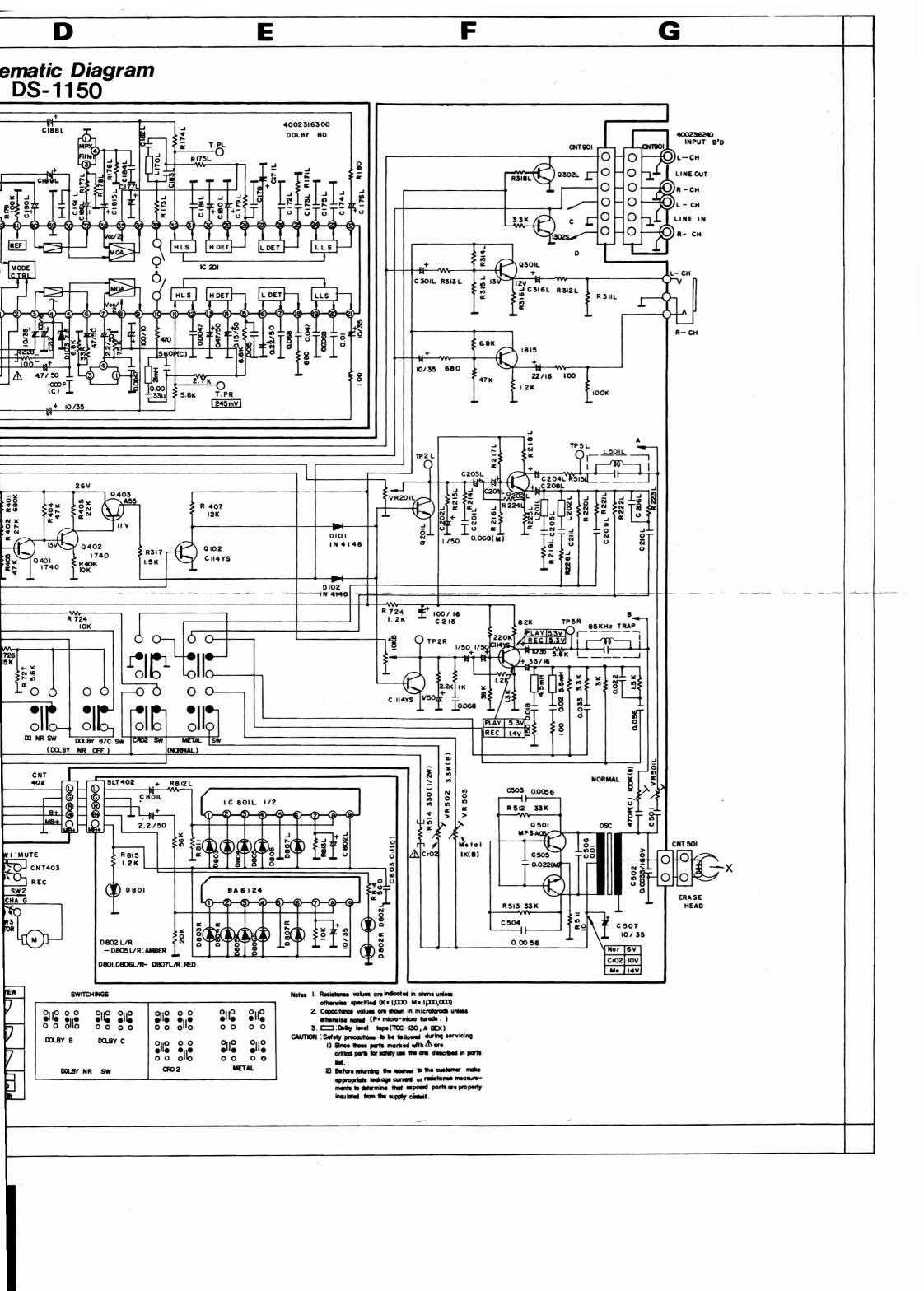


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# Exploded View (Cabinet & Chassis)







# Block Diagram

